usbLOGiC USB-AV-Player

USB-E65

for BMW E65 Professional navigation systems with 8.8” monitor

Product features

- USB-port for media up to 2 TB (2000GB)
- supports FAT32 and NTFS formatted media
- multi partition capable
- compatible with MP3, AVI, VOB, MOV, RMVB, JPG and many more
- last position memory
- integrated into and controllable by vehicle infotainment
- AV-input with IR-control channel
- control of after-market devices by OEM buttons, e.g. DVD-player, USB/iPod devices, …
- after-market rear-view camera input
- automatic switching to rear-view camera input (only from usbLOGiC mode)
- rear-view camera power (+12V max 1A)
- rear-seat-entertainment AV-output
- optional remote control for full USB functions/rear-seat-entertainment
- power on remote out trigger signal (+12V max 1A) to switch on connected devices
- video-in-motion

Contents

1. Prior to Installation

1.1. Delivery contents
1.2. Check compatibility of vehicle and accessories
1.3. Setting the dip switches of the CAN-box TV-436
1.4. Setting the dip switches of the USB-box USBC-M536
1.4.1. Automatic switching to rear-view camera
1.4.2. Deactivating usbLOGiC AV input

2. Installation

2.1. Installation of CAN-box TV-436
2.2. Installation of USB-box USBC-M536
2.3. Antennas and optional IR-remote control set
2.4. Connecting peripheral devices
2.4.1. AV-source
2.4.2. Installing AV-source's IR-sensor additionally
2.4.3. After-market rear-view camera
2.4.4. After-market rear-seat-entertainment
2.4.5. Factory nightvision, factory DVD-changer, factory rear-view camera

3. Operation

3.1. Activation of the video-in-motion function
3.2. Selecting the usbLOGiC as current AV-source
3.3. Assigning device control for connected AV-source
3.4. Switching to internal USB, AV-source or after-market rear-view camera
3.5. Button assignment table iDrive

4. Specifications

5. Connections (USB-box)

6. Technical support

Appendix A – Device control table
Appendix B – USB function manual

Legal Information

By law, watching moving pictures while driving is prohibited, the driver must not be distracted. We do not accept any liability for material damage or personal injury resulting, directly or indirectly, from installation or operation of this product. This product should only be used while standing or to display fixed menus or rear-view-camera video when the vehicle is moving, for example the MP3 menu for DVD upgrades.

Changes/updates of the vehicle's software can cause malfunctions of the interface. We offer free software-updates for our interfaces for one year after purchase. To receive a free update, the interface must be sent in at own cost. Labor cost for and other expenses involved with the software-updates will not be refunded.

1. Prior to installation

Read the manual prior to installation. Technical knowledge is necessary for installation. The place of installation must be free of moisture and away from heat sources.

1.1. Delivery contents

Take down the SW-version and HW-version of the interface boxes, and store this manual for support purposes.

If remote function for a peripheral device shall be used, additional an IR-Remote cable and Y-adapter are needed, see chapter *AV-source* .

1.2. Check compatibility of vehicle and accessories

Requirements	
Vehicle	7series (E65/E66)
Navigation	Navigation system **Professional** E65 (older 1/2-button iDrive or CIC (newer 8-button iDrive) with 8.8” monitor
Limitations	
factory-TV-tuner	Must NOT be installed. If uninstalled, optical ring must be closed.
factory DVD-changer or factory nightvision	After-market rear-view camera cannot be connected to the usbLOGiC interface.
factory rear-seat-entertainment	Additional interface VL-RGB02-R is necessary
After-market rear-view cam	Only works from usbLOGiC mode, not from OEM.
USB-port	Only for media which work with power supply by ONE single USB connector
Factory PDC	If an after-market rear-view camera should be connected by the usbLOGiC the visual PDC display must be deactivated occasionally or permanently for camera picture.

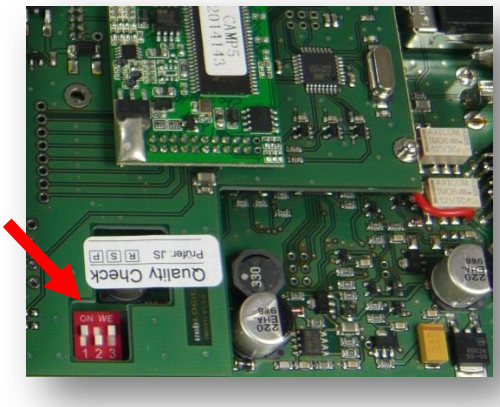
1.3. Setting the dip switches of the CAN-box TV-436

All vehicles — dip 1 ON, dip 2 OFF, dip 3 OFF

1.4. Setting the dip switches of the USB-box USBC-M536

The default dip switch settings of the USB-box need to be changed ONLY if a rear-view camera is or shall be connected or if the AV-input of the usbLOGiC shall be deactivated. The dip switches are located **inside** the USB-box. For changes it is necessary to open the box. Default settings are:

dip1 = ON, dip2 = OFF, dip3 = ON



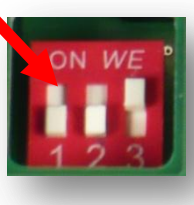
1.4.1. Automatic switching to rear-view camera

Dip switches of USB-box

If an after-market rear-view camera shall be connected or a factory rear-view camera is connected, in order for the usbLOGiC to automatically switch to its camera input, when reverse is engaged set dip2 = ON (up).

Note: Automatic switching works only from usbLOGiC mode.

1.4.2. Deactivating usbLOGiC AV input



dip switches of USB-box

If no peripheral AV-source shall be connected to the usbLOGiC, we recommend to disable the AV-input, to avoid customers switching by mistake to black/no picture of the AV-input. In order to disable the AV-input of the usbLOGiC,
set dip1 = OFF (down).

2. Installation

Switch off ignition and disconnect the vehicle's battery! If according to factory rules disconnecting the battery has to be avoided, it is usually sufficient to put the vehicle in sleep-mode. In case the sleep-mode does not show success, disconnect the battery with a resistor lead.

Complete and correct function of the interface is possible only when CAN **and** MOST® (tuner) connections are made properly. On vehicles without TV-icon, it will be coded automatically after installation.

Place of installation is at the rear of the navigation screen and at the rear of the navigation computer.

Note: The loose white and green cable of harness TV-BMW65 are not required and must be isolated.

2.1. Installation of CAN-box TV-436

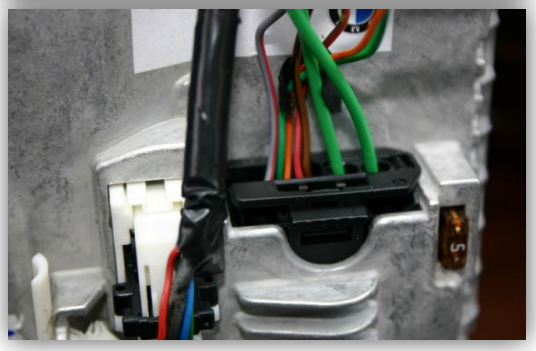
The CAN interface is connected to the backside of the OEM screen.

Remove 3 TORX screws at the OEM screen.

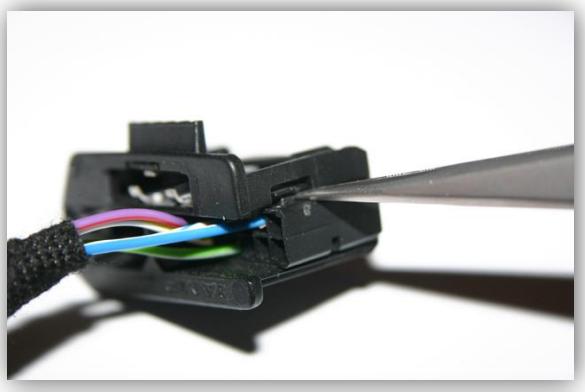
Remove cover grill (only plugged). Place soft towel beneath the navigation monitor to avoid scratches

Flip down the board monitor. *NOTE*: The OEM screen gets stuck with its connector at the upper side of the cockpit. Insert a hard plastic sheet like a credit card to prevent cockpit from taking damage.

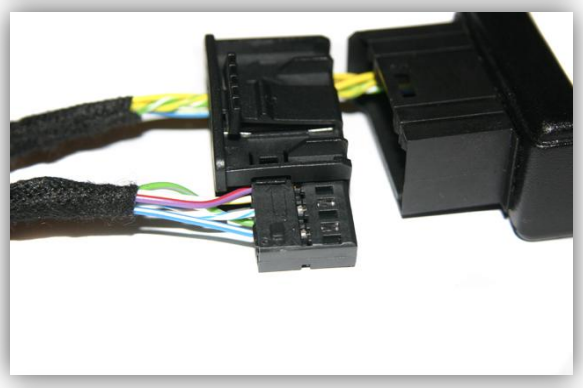
Remove the black connector at the backside of the screen as shown below.



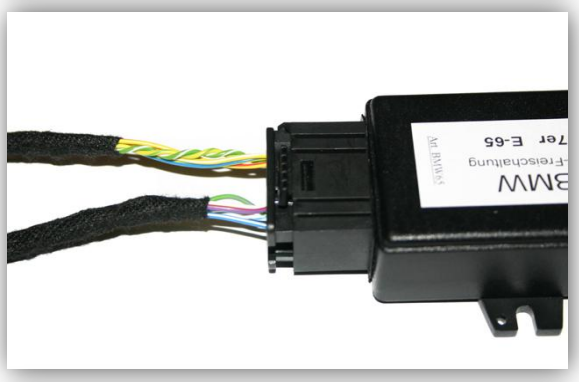
Remove 12-pin insert from black vehicle harness connector.



Insert 12-pin insert into black connector of the CAN interface harness TV-BMW65.



Insert the completed black connector into CAN interface harness TV-BMW65.



Connect 12-pin insert from CAN interface harness TV-BMW65 into black connector from vehicle harness.

Insert completed connector into the plug on the backside of the navigation monitor.
Connect 8pin Molex connector of TV-BMW65 to CAN-box TV-436.

NOTE: *Pictures do NOT show the fibre optics connected in car!*

2.2. Installation of USB-box USBC-M536

The fibre optical interface installation is made at the navigation computer, which is located at the left side in the trunk behind a cover and has to be removed.

The video lead (red/colored - video signal, black - video ground) has to be removed from the white insert of C2C-BMW02. The white insert is not needed for E65/E66 installation.

Connect video lead of C2C-BMW02 to green 18-pin AMP connector
Video-signal (red) to chamber 3 of the green 18-pin AMP connector
Video-ground (black) to chamber 11 of the green 18-pin AMP connector

Remove fibre optics from black 20-pin plug and connect them as shown below. Then reconnect the fibre optics in the black 20-pin connector and connect the MOST to the USB-box USBC-M536.

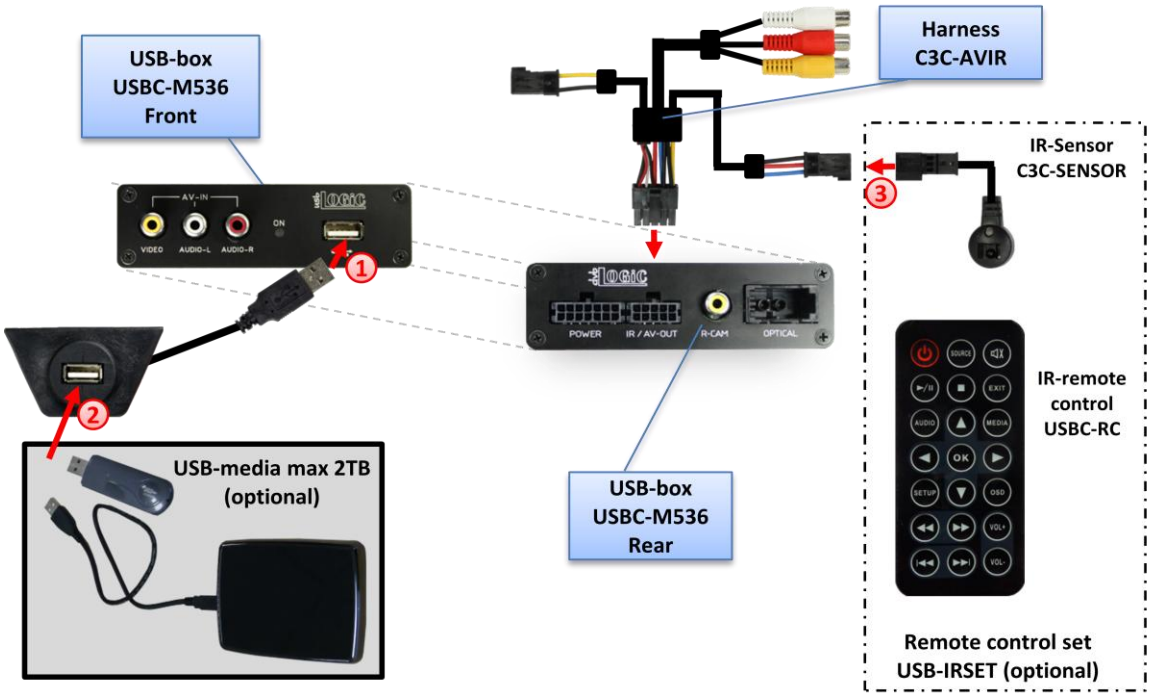
Obey the direction arrows of the optical connectors!

To black 20pin of navigation computer

14pin Molex connector

red – connect to +12V permanent current
black – ground
pink – remote signal +12V, high when navigation is on
white – The white wire is not connected and has to be isolated. In some cases it is possible that the automatic switching does not work. In this case connect the white wire to the reverse gear light (+12V).
green – camera power +12V (max 0.5A) on engaged reverse.

2.3. USB and optional IR-remote control set



1. Connect USB-connector of USB-installation socket USBC-EXT to USB-socket of USB-box USBC-M536 and install the USBC-EXT socket in a well accessible location, e.g. the glove-box. Make sure there is enough space to load USB-media.

2. Installation socket for the connection of USB-media.

3. The USB-IRSET consists of the external C3C-SENSOR IR-sensor and the USBC-RC IR-remote control and can be used to control the usbLOGiC's internal USB functions additionally to the control through the navigations buttons. Connect the C3C-SENSOR to the female black/red/blue 3pin AMP connector of harness C3C-AVIR and locate the sensor in an accessible place.

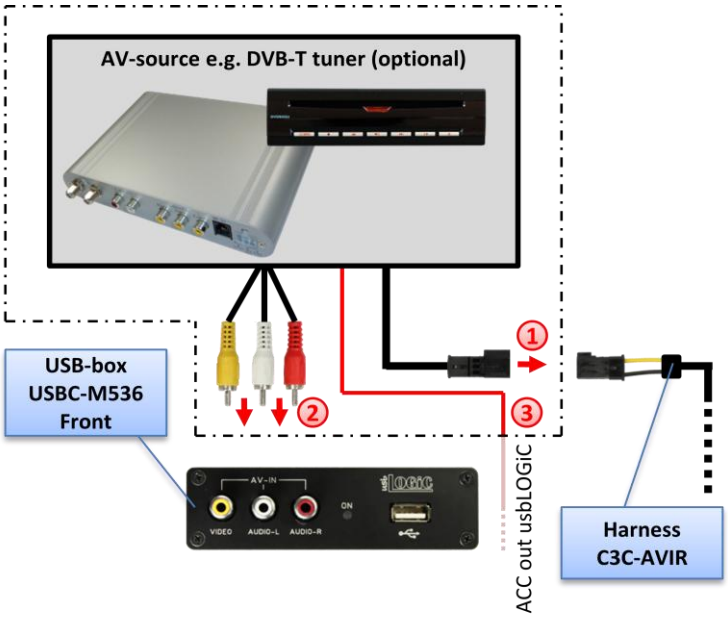
2.4. Connecting peripheral devices

It is possible to connect an after-market AV-source, after-market rear-view camera and rear-seat-entertainment to the usbLOGiC. Also factory nightvision, factory DVD-changer or factory rear-view camera must be connected to the usbLOGiC.

Before final installation of the peripheral devices, we recommend to test-run the usbLOGiC functions to detect incompatibility of vehicle, navigation, factory accessories or peripheral devices as soon as possible.

2.4.1. AV-source

The usbLOGiC has the possibility to connect and remotely control by navigation buttons a pre-programmed device. The device list in the device control table shows the pre-programmed remote channels and the related IR-remote cables STA-xxx which must be ordered separately for the control of the device.



1. Using the respective STA-xxx IR-control cable, interconnect the yellow female 3pin AMP connector of harness C3C-AVIR and the IR-port of the AV-source.

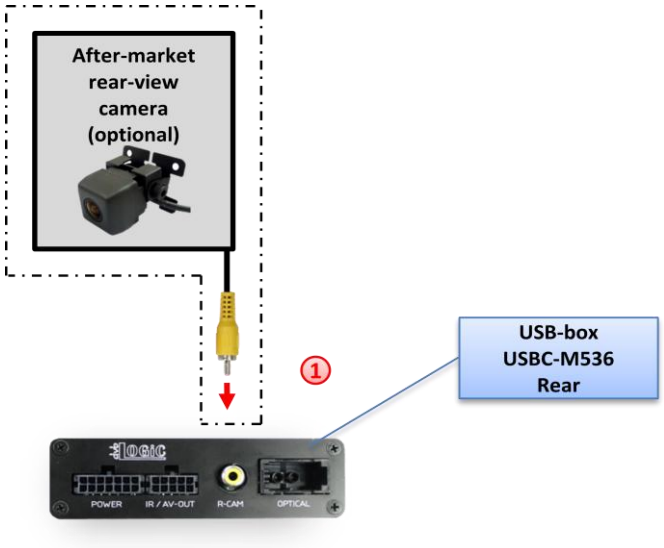
2. Using an RCA-cable, interconnect the female RCA-port AV1 of the USB-box USBC-M536 with the AV-output of the AV-source.

3. The pink ACC-output wire (+12V max 1A) of harness C2C-BMW02 can be connected to the ACC-input wires of the connected device to switch it on. It carries +12V when the navigation computer is running.

2.4.2. Installing AV-source's IR-sensor additionally

Additionally to the control via OEM navigation, it is possible to install the original IR-sensor of a connected device. By using the respective Y-adapter (e.g. STA-Y35MM or STA-RJ12) for the IR-Port of the connected device, the controls of navigation AND device's IR-sensor can be connected and used simultaneously. Installation of the IR-sensor is recommended as the controls via navigation are limited, and not all functions may be covered.

2.4.3. After-market rear-view camera



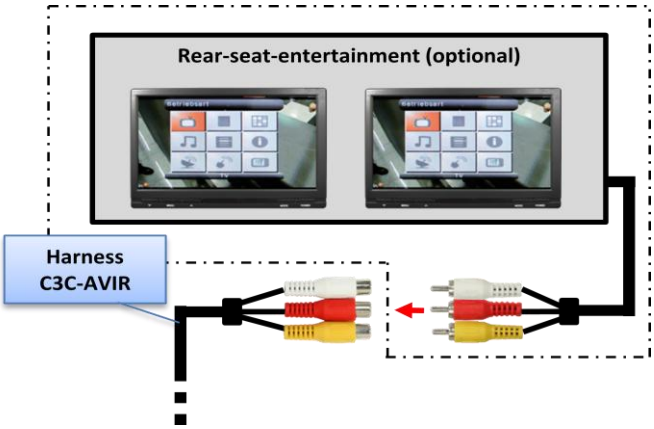
1. Connect the video RCA of the after-market rear-view camera to the female RCA connector R-CAM IN of USB-box USBC-M536.

2. The green wire of harness C2C-BMW02 can be used as +12V power (max 1A) supply for the rear-view camera.

   Note: Automatic switching to the camera-input when reverse gear is engaged works only in usbLOGiC mode.

With an existing factory PDC the visual PDC display must be deactivated occasionally or permanently by iDrive while operating in the vehicle settings for camera picture. If needed the PDC display can be switched on by PDC button.

2.4.4. After-market rear-seat-entertainment



1. Using RCA-cables, connect the rear-seat-entertainment to the female RCA-connector VIDEO OUT of USB-box USBC-M536.

   Note: As the output is a full output, not shared with the video signal for the navigation system, splitting the video with an RCA Y-cable might give a good enough picture for two rear-seat-entertainment monitors. If not, or if connecting more than two monitors, use a video splitter.

2.4.5. Factory nightvision, factory DVD-changer, factory rear-view camera

On vehicles with factory nightvision, factory DVD-changer or factory rear-view camera, pin out the video-signal and video-signal ground from the green 18pin AMP connector of the vehicles harness (rear of navigation computer) and connect them by male RCA-connector to the R-CAM IN of USB-box.

Navi	Video-signal	Video-signal ground
E65	Pin 3	Pin 11

The factory component will work as before.

3. Operation

3.1. Activation of the video-in-motion function

Tthe video-in-motion function is permanently active without disturbing the navigation performance.

3.2. Selecting the usbLOGiC as current AV-source

In the vehicle's main menu, select **Infotainment** and then **TV** by iDrive to choose the usbLOGiC as current AV-source.

3.3. Assigning device control for connected AV-source

After selecting the usbLOGiC as current AV source, push iDrive knob to open the usbLOGiC control menu. Select control levels setup "AV: RCxx" and assign related IR-code as described in device control table.

Note: If the AV-input is deactivated (see chapter "Deactivating usbLOGiC AV-input"), the menu items "AV" and "AV: RCxx" will not be available.

3.4. Switching to internal USB, AV-source or after-market rear-view camera

In the usbLOGiC control menu, choose TV to enter internal USB mode, AV to enter AV-input mode (not available if AV-input is deactivated, see chapter "Deactivating usbLOGiC AV-input") or REAR CAM to switch to the usbLOGiC after-market rear-view camera-input (even if the automatic switching to the camera input is disabled, see chapter "Automatic switching to rear-view camera"). After selection the menu will close automatically and switch to the selected source. The iDrive knob, some multi-function-steering wheel buttons (MFSW) and some navigation buttons (HU) are now available for remote functions (see assignment table for iDrive below).
By pressing the iDrive-MENU-button, the system returns to the factory iDrive functions. By pressing the iDrive knob again, the usbLOGiC control menu will be re-entered.

3.5. Button assignment table iDrive

The button assignment table shows which functions of usbLOGiC and additionally connected devices can be executed by iDrive. Once USB or AV-input mode are activated the iDrive action in the left column will execute the function described in the corresponding device column. The function description equals the remote control buttons of the optional usbLOGiC remote control or the additional device. On the additional device the writing may vary (e.g. AV instead of Source).

iDrive Action	Device				
	Internal USB	**DVB-T Tuners**	**DVD on AV-input**	**DVC on AV-input**	**iPod interface on AV-imput**
MENU long	SETUP	MENU	Setup	Setup	Setup
MENU short	Return to factory iDrive functions	Return to factory iDrive functions	Return to factory iDrive functions	Return to factory iDrive functions	Return to factory iDrive functions
OPTIONS long *2	SOURCE	INFO	Audio	Audio	KCE: Light Bulb, Vlink: Subtitle
OPTIONS short *2		Signal strength	Subtitle	Subtitle	KCE: lower vol, Vlink: Display
ENTER long	POWER	POWER	Power	Power	Power
ENTER short	OK / PLAY	OK	OK	OK	OK
NORTH long	EXIT	EPG	Menu/PBC *1	Menu/PBC *1	Shuffle
NORTH short	UP	UP	Up	Up	Previous chapter
WEST long	MEDIA	EXIT	Play/Resume	Play/Resume	Play/resume
WEST short	LEFT	LEFT	Left	Left	Left
SOUTH long		SOURCE	Source	Source	Source
SOUTH short	DOWN	DOWN	Down	Down	Next chapter
EAST long	POWER	AUTO	Zoom	Next DVD or DVD selection menu	KCE: increase vol, Vlink: ESC
EAST short	RIGHT	RIGHT	Right	Right	Right
Left turn	Previous Track	Previous channel	Previous chapter	Previous chapter	Up
Right turn	Next Track	Next channel	Next chapter	Next chapter	Down
UP long on MFSW *3		SOURCE	Next DVD	Next DVD or DVD selection menu	Next DVD or DVD selection menu
UP short on MFSW *3	Previous Track	Previous channel	Previous chapter	Previous chapter	Previous chapter
DOWN long on MFSW *3	SOURCE	INFO	Next DVD	Next DVD or DVD selection menu	Next DVD or DVD selection menu
DOWN short on MFSW *3	Next Track	Next channel	Next chapter	Next chapter	Next chapter
LEFT long on HU *3		SOURCE	Next DVD	Next DVD or DVD selection menu	Next DVD or DVD selection menu
LEFT short on HU *3	Previous Track	Previous channel	Previous chapter	Previous chapter	Previous chapter
RIGHT long on HU *3	SOURCE	INFO	Next DVD	Next DVD or DVD selection menu	Next DVD or DVD selection menu
RIGHT short on HU *3	Next Track	Next channel	Next chapter	Next chapter	Next chapter

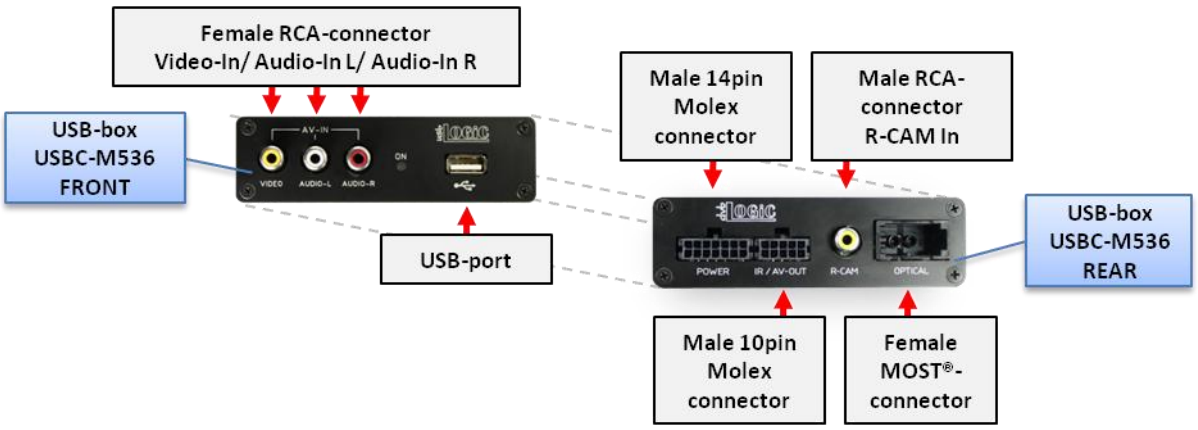
*1 DVD title menu *2 not available on all vehicles *3 multi function steering wheel and head-unit

4. Specifications

Operation voltage	10.5 – 14.8V DC
Stand-by power drain	<1mA
Operation power drain	min. 400mA/max. 900mA
Power consumption	min. 5.5W/max. 12.4W
Power rating USB-port	0,5A permanent (0,8A max)
Temperature range	-30°C to +80°C
Weight	312g
Measurements (box only) B x H x T	135 x 30 x 105 mm

CE ⎓12V DC

5. Connections (USB-box)



6. Technical Support

Caraudio-Systems Vertriebs GmbH
manufacturer/distribution
Rheinhorststr. 22
D-67071 Ludwigshafen am Rhein

NavLinkz GmbH
corporate sales/tech dealer-support
Eurotec-Ring 45
D-47445 Moers

phone +49 180 3 907050
email support@caraudio-systems.de

Legal disclaimer: Mentioned company and trademarks, as well as product names/codes are registered trademarks ® of their corresponding legal owners.